REMARKS

Claims 1-33 are pending in the current application. Applicant has amended FIG. 1 as well as claims 12, 18, 30, 32, and 33 and has added claims 34-50. Reexamination and reconsideration of all of the claims are respectfully requested.

The Examiner objected to FIG. 1 as not being labeled PRIOR ART. Applicant has amended FIG. 1 to include the PRIOR ART notation in red ink, attached hereto as Exhibit A.

The Examiner rejected claims 18, 30, and 33 as not being in compliance with 35 U.S.C. § 112. Applicants have amended the claims and has slightly altered the language of claim 32 to correct minor wording errors. With respect to claim 33, Applicants note that claim 32 recites "selectively filtering and passing energy" and a separate "further selectively filtering and passing energy." Claim 33 does not include the "further" aspect and thus refers to the "selectively filtering and passing energy" element of claim 32. Applicants therefore submit that claim 33, as amended, is clear and supported, and that all claims conform with 35 U.S.C. § 112.

The Examiner rejected claims 1, 4, 7, 8, 9, 24, 26, 28, 29, 30, 31, and 32 under 35 U.S.C. § 103(a) based on Krantz, U.S. Patent 6,248,988, in view of Bishop. The Examiner rejected Claims 21-23 under 35 U.S.C. § 103(a) based on Krantz in view of Kerstens in view of Bishop. The Examiner further rejected Claims 12-15 and 17-20 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Krantz in view of Kerstens. The Krantz reference is therefore considered a § 102(e) reference.

Krantz '988 is assigned to KLA-Tencor Corporation, of San Jose, California. The present application is also assigned to KLA-Tencor Corporation, of San Jose, California, and the assignment is recorded at the U.S.P.T.O. at Reel 010969, Frame 0411. Thus the Krantz '988 patent and the present application are commonly assigned.

According to 35 U.S.C. § 103(c),

> Subject matter developed by another person, which qualifies as prior art only under one or more subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Thus all § 103 claim rejections in the present application based in part on Krantz are improper in view of § 103(c). Applicants disagree with various arguments presented in the Office Action, but removal of Krantz as a § 103 reference renders those arguments moot.

The only claims not rejected under 35 U.S.C. § 103 based on Krantz are claims 12-15 and 17-20, rejected under § 102(e) as anticipated by Krantz. Applicants have amended claim 12 and respectfully submit that claim 12 and all claims dependent thereon are allowable over the cited references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that all claims of the present application are in condition for allowance. Reexamination and reconsideration of all of the claims, as amended, are respectfully requested and allowance of all the claims at an early date is solicited.

Should it be determined for any reason an insufficient fee has been paid, please charge any insufficiency to ensure consideration and allowance of this application to Deposit Account 502026.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE DRAWINGS

FIG.1 is amended in red ink as presented in Exhibit A attached hereto

IN THE CLAIMS

Claim 12 has been amended as follows:

12. (Amended) A specimen inspection system, comprising:

a light energy source;

a multiple element arrangement for receiving energy from said energy source and selectively passing the light energy received;

a lensing arrangement [comprising an autofocus system] for measuring and canceling topographical variations during inspection; [and]

a pinhole mask for filtering light energy received from said lensing arrangement; and

a time delay and integration charge coupled device for receiving light energy from the pinhole mask.

Claim 18 has been amended as follows:

18. (Amended) The specimen inspection system of claim 12, wherein said [fly lens] multiple element arrangement comprises a plurality of offset individual lenses.

Claim 30 has been amended as follows:

30. (Amended) The system of claim [30] 29, wherein said fly lens arrangement is substantially aligned with respect to the pinhole mask.

Claim 32 has been amended as follows:

32. (Amended) A method for inspecting a specimen, comprising [the steps of]:

generating light energy;

selectively filtering and passing energy received from said [illumination means] light energy generating using a multiple element arrangement;

imparting light energy from the multiple element arrangement onto said specimen;

further selectively filtering and passing energy reflected from said specimen; and

performing a time delay and integration sensing function on light energy received from said further selectively filtering and passing [step].

Claim 33 has been amended as follows:

33. (Amended) The method of claim 32, further comprising [the step of] automatically focusing the light energy [in the] during selective[ly] filtering [step] and energy passing wherein said automatic focusing comprises measuring and canceling topographical variations during selective filtering.

Claims 34-50 are new:

34. A method for focusing an inspection system used to inspect a specimen, comprising:

performing an initial scan to determine specimen depth features;

determining a bottom depth on the specimen and setting a bottom inspection threshold at the bottom depth; and

performing a feature scan of the specimen using the bottom inspection threshold and modulating focus depth based on the initial scan.

35. The method of claim 34, wherein performing the initial scan comprises performing multiple inspection swaths across the specimen.

36. The method of claim 35, wherein the specimen comprises a semiconductor wafer.

37. The method of claim 36, wherein the semiconductor wafer comprises:

at least one metal layer; and

silicon underlying the at least one metal layer.

38. The method of claim 34, wherein said method maintains a relatively planar focus condition.

39. The method of claim 34, further comprising scanning additional specimens and equalizing the resultant scans.

40. The method of claim 39, wherein equalizing the resultant scans comprises averaging specimen values thereby removing noise and tilt.

41. A method for focusing an inspection system employed to inspect a semiconductor wafer, comprising:

performing an initial scan to determine semiconductor wafer depth features;

determining a bottom depth for the semiconductor wafer;

setting a bottom inspection threshold at the bottom depth; and

scanning the semiconductor wafer using the bottom inspection threshold as a baseline and modulating focus depth during the scanning based on the initial scan.

42. The method of claim 41, wherein performing the initial scan comprises performing multiple inspection swaths across the semiconductor wafer.

43. The method of claim 42, wherein the semiconductor wafer comprises:

at least one metal layer; and

silicon underlying the at least one metal layer.

44. The method of claim 41, wherein said method maintains a relatively planar focus condition.

45. The method of claim 41, further comprising scanning additional similar semiconductor wafers and equalizing the resultant scans.

46. The method of claim 45, wherein equalizing the resultant scans comprises averaging specimen values thereby removing noise and tilt.

47. A system for inspecting a specimen, comprising:

an offset calculator for calculating a baseline focal offset for the specimen;

a focal actuator for dynamically setting system focus partially based on the baseline focal offset; and

a summing element for summing dynamically set feedback system focus and baseline focal offset to produce a focal error.

48. The system of claim 46, wherein the summing element provides the focal error to the offset calculator.

49. The system of claim 47, wherein said focal actuator provides signals through a focus feedback system to a recording device.

50. The system of claim 46, further comprising an amplifier and compensator that receive the focal error, amplify and compensate the focal error, and provide the amplified and compensated focal error to the offset calculator.